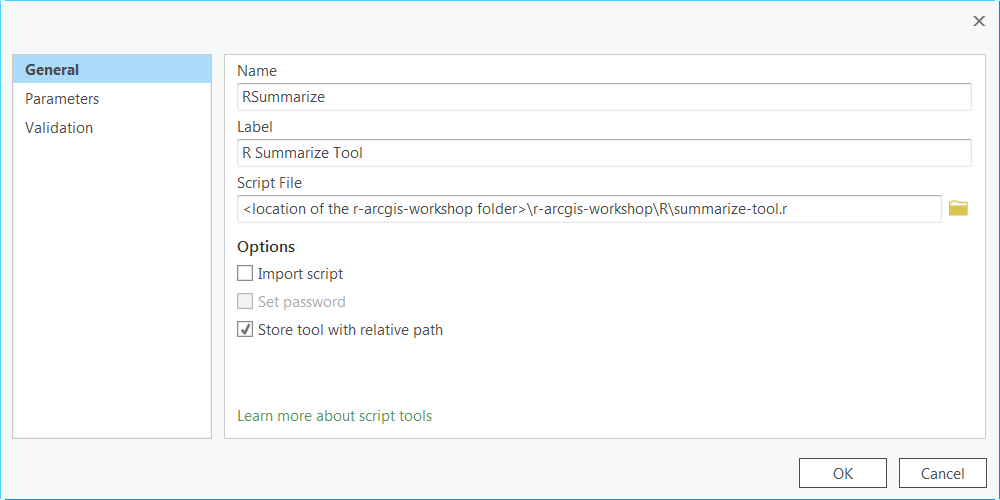
Creating an R-ArcGIS Script Tool

In order to build a functional R-ArcGIS tool, you must create an ArcGIS script tool user interface component. This tutorial will cover how to create the user interface component for the *R Test Tool*, and the *R Summarize Tool*, but you can follow this general workflow to create any R-ArcGIS script tool so long as the parameters match those included in your R script file (e.g., summarize-tool.R).

1. Creating the R Summarize Tool

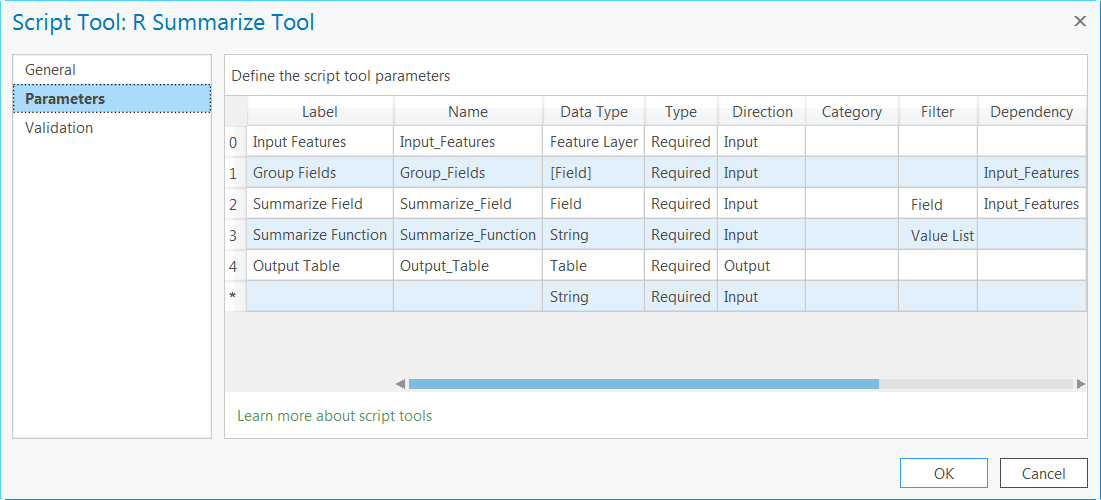
Add the R Summarize tool to the **r-arcgis-pro-project** toolbox in ArcGIS Pro.

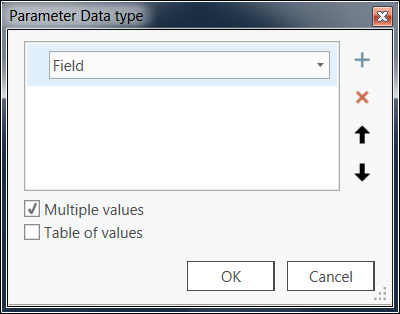
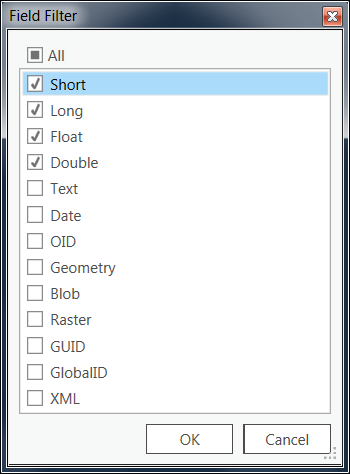
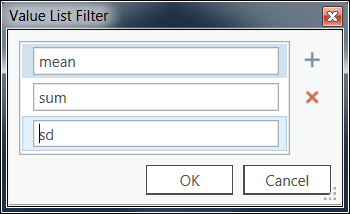
1. Double click **arcgis-r-pro-project.aprx** to open the project in ArcGIS Pro.
2. From the ArcGIS, click on the **VIEW** tab, and then in the *Windows* group, select **Project**.
3. In the *Project* pane on the right side of ArcGIS Pro, click the **Toolboxes** dropdown menu. Right-click the **r-arcgis-pro-project** toolbox, and select **New** > **Script**.
4. Fill in the fields of the *General* section of the *Script Tool* wizard to match the following image:



**Note**: For the *Script File***,** browse to the *r-arcgis-workshop/R* filder, and select the **basic-summarize-tool.R** file. Do not copy exactly what is displayed in the image above.

1. Select the *Parameters* section of the *Script Tool* wizard, and fill in the pane to match the following image:



* 1. For the *Group Fields* parameters, when specifying the *Data Type*, make sure to check the **Multiple Values** checkbox:  
       
     
  2. For the *Summarize Field* parameter, when specifying the *Filter*, fill in the *Field Filter* dialog to match the following image:  
       
     
  3. For the *Summarize Function* parameter, when specifying the *Filter*, fill in the *Value List Filter* dialog to match the following image:  
       
     

1. Once you are finished setting tool parameters, click **OK**.

**Note:** Make sure the tool parameters are provided in the same order as above or the tool will not function properly.

Now that the R-ArcGIS Tool has been constructed, you can test it with Toronto data to ensure it works properly.

1. Select the **R Summarize Tool** from the *r-arcgis-pro-project* toolbox.
2. Fill in the fields however you want, but be sure to navigate to your own 'toronto\_crime\_groups' feature class for the *Input Features* field. Click **OK**.

Once the tool has finished running, you should see an output standalone table outputted to your Table of Contents. Right-click the table of contents, and select **Open** to view the summarized data set.

If you received any errors in the output, they will most likely be related to the R script. Make sure that all of your variables were set correctly, and run the script again using the test data set to ensure all the functions are working properly.

# Future Considerations

R is a powerful tool with an abundance of resources that can be drawn from to extend the functionality of ArcGIS. This tutorial has outlined the process of building a basic R tool within ArcGIS, but you should continue to experiment and create your own R tools for ArcGIS using the procedures you have learned in this tutorial.

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